

## Information and education

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Today's young people are more motivated when they have to solve problems connected to the real world, since they prefer acting to listening. We tried to take this into account in our *Science Communication and Education* Project, in which young people from different high schools approached a series of controversial problems involving current scientific topics with a significant social impact.

A series of controversial topics were tackled during the course of the project, such as GMOs, environmental pollution in big cities and, last but not least, the 'water crisis'. The choice fell on the latter, given the urgent nature of this phenomenon throughout Europe, where raising the population's awareness and obtaining their contribution is fundamental. Moreover, since it is a complex, controversial topic with powerful social consequences, it was well attuned to the spirit and aims of the Cnr project. As a confirmation of this we can quote the following passage from the Italian Civil Protection Department article: «Tackling a complex, interdisciplinary topic such as the water crisis will require the individual and collective adoption of new forms of behaviour that will have a better chance of being accepted if shared on the basis of clear, detailed and scientifically grounded information».

The students who took part in the project gathered information on the debate topic from a selection of sources made available by the Cnr, the British Council and Italian Civil Protection Department. The material brought to the young people's attention came

from various public and private institutions, research centres and consumer associations. Keeping in mind that these kinds of topics involve multiple points of view, methods and analyses, as well as environmental, social and ethical consequences, in choosing the documentation divergent points of view, elements of uncertainty, differences in scientific sensibilities and the various pros and cons surrounding the issue were taken into account. All sources were screened for quality, pluralism and international relevance (Libutti, Valente, 2005).

Teachers were there to guide these young people along the way and help them, first of all, to become aware of the problem, improve the quality of their questions and integrate the material supplied with their own research. The youngsters were urged to compare and assess the information retrieved, considering the different contexts in which it was produced and rejecting what they did not consider reputable. Finally, they were encouraged to express themselves in new ways when making their proposals.

The correct use of information and communication technologies aims at teaching young people to plan and follow their research appropriately, both at the information stage, i.e. when retrieving the sources, and at the dissemination stage, i.e. through their proposals.

The students also used multimedia tools when they presented their proposals to the water crisis experts, proving they were in step with the times and capable of expressing themselves in ways other than the traditional ones.

The aim of the methodology used by the Cnr to retrieve sources was to teach youngsters to develop a real information culture in order to approach science topics correctly. It is important that young people understand that there may be several different solutions to the same problem, and that every solution has to be put into the historical context that produced it. They also need to grasp that there may not be a solution to a problem, or that the solutions may be worse than the problem itself. Asking questions becomes more important than giving answers.

Education and awareness-building are essential steps in the process of attracting young people to the world of science. Through participation, knowledge and the effective delivery of information,

young people can become informed and active participants in a process to which they feel they belong.

It is vitally important to ensure that schools offer suitable learning environments and provide innovative teaching techniques to encourage students to explore the social dimensions of the scientific issues they are dealing with, ask questions, explore, collate experiences and form individual and group opinions. In this way, their science studies can be imbued with a new significance.

### **Bibliographical references**

LIBUTTI L., VALENTE A., *Science communication and information dissemination: the role of the information professional in the 'Perception and Awareness of Science' project*, in "Journal of Information Science", 32 (2), 2005